

**ABSTRACT**

An electrophoretic device separates and detects particles such as DNA fragments, proteins, and the like. The device has a capillary which is coated with a coating with a low refractive index such as Teflon® AF. A sample of particles is fluorescently labeled and injected into the capillary. The capillary is filled with an electrolyte buffer solution. An electrical field is applied across the capillary causing the particles to migrate from a first end of the capillary to a second end of the capillary. A detector light beam is then scanned along the length of the capillary to detect the location of the separated particles. The device is amenable to a high throughput system by providing additional capillaries. The device can also be used to determine the actual size of the particles and for DNA sequencing.

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